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PATENT
Attorney Docket No.: 019496-001810US

Assistant Commissioner for Patents
Washington, D.C. 20231

January 16, 2002
TOWNSEND and TOWNSEND and CREW LLP
By: Paul Paul Kelly

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

EISENBERG et al.

Application No.: 09/825,242

Filed: April 2, 2001

For: SELECTION OF SITES FOR
TARGETING BY ZINC FINGER
PROTEINS AND METHODS OF
DESIGNING ZINC FINGER PROTEINS
TO BIND TO PRESELECTED SITES

Examiner: Jeffry Lundgren

Art Unit: 1631

PRELIMINARY AMENDMENT

Box Sequence

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

In response to the Notice to Comply With Requirements for Patent Applications Containing Nucleotide Sequence and/or Amino Acid Sequence Disclosures and Raw Sequence Listing Error Report, mailed December 10, 2001, Applicants submit the required paper copy and computer readable copy of the Substitute Sequence Listing.

Please find enclosed a **Substitute** Sequence Listing in the paper and computer readable format to replace the original Sequence Listing referenced and paper copy mailed on August 1, 2001.

Please amend the specification in adherence with 37 C.F.R. §§ 1.821-1.825 as follows.

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Application No.: 09/825,242
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PATENT

IN THE SPECIFICATION:

Please cancel the "SEQUENCE LISTING", previously submitted on August 1, 2001, and insert therefor the accompanying paper copy of the Substitute Sequence Listing, page numbers 1-35, at the end of the application.

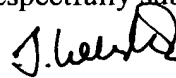
REMARKS

Applicants request entry of this amendment in adherence with 37 C.F.R. §§1.821 to 1.825. This amendment is accompanied by a floppy disk containing the above named sequences, SEQ ID NOS:1-97, in computer readable form, and a paper copy of the sequence information which has been printed from the floppy disk.

The information contained in the computer readable disk was prepared through the use of the software program "PatentIn" and is identical to that of the paper copy. This amendment contains no new matter.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



Joe Liebeschuetz
Reg. No. 37,505

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, 8th Floor
San Francisco, California 94111-3834
Tel: (415) 576-0200
Fax: (415) 576-0300
JOL:adm



SUBSTITUTE SEQUENCE LISTING

<1> Rosenberg, Stephen P.

Case, Casey C.

Cox III, George N.

Jamieson, Andrew

Rebar, Edward J.

Sangamo Biosciences, Inc.

<120> Selection of Sites for Targeting by Zinc Finger
Proteins and Methods of Designing Zinc Finger Proteins
to Bind to Preselected Sites

<130> 019496-001810US

<140> US 09/825,242

<141> 2001-04-02

<160> 97

<170> PatentIn Ver. 2.1

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531-624 in Sp-1 transcription factor

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Pro Gly Lys Lys Lys Gln His Ile Cys His Ile Gln Gly Cys Gly Lys
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 35 40 45

Thr Arg Ser Asp Glu Leu Gln Arg His Lys Arg Thr His Thr Gly Glu
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His Leu Ser Lys His Ile Lys Thr His Gln Asn Lys Lys Gly
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 35 40 45

Glu Cys Gly Lys Ser Phe Ser Arg Ser Asp Glu Leu Gln Arg His Gln
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19

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motif searched by protocol 3

<220>

<221> modified_base

<222> (1)..(22)

<223> n = g, a, c or t

<220>

<221> modified_base

<222> (11)..(12)

<223> n = g, a, c or t, may be present or absent

<400> 73

knnknnkngk nnknnknnkn gk

22

<210> 74

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:target site DNA
motif searched by protocol 3

<220>

<221> modified_base

<222> (1)..(23)

<223> n = g, a, c or t

<220>

<221> modified_base

<222> (12)..(13)

<223> n = g, a, c or t, may be present or absent

<400> 74

knnknnkngk nnnknnknnk ngk

23

<210> 75

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:target site DNA
motif searched by protocol 3

<220>

<221> modified_base

<222> (1)..(19)

<223> n = g, a, c or t

<400> 75

knnknnkngk ngknnknnn

19

<210> 76
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:target site DNA
motif searched by protocol 3

<220>
<221> modified_base
<222> (1)..(19)
<223> n = g, a, c or t

<400> 76
knnknnkngk nnkngknnn

19

<210> 77
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:target site DNA
motif searched by protocol 3

<220>
<221> modified_base
<222> (1)..(19)
<223> n = g, a, c or t

<400> 77
knnknnkngk nnknnkngk

19

<210> 78
<211> 10
<212> DNA
<213> Glycine max

<220>
<223> soybean FAD2-1 cDNA ZFP target segment FAD 1

<400> 78
gaggtagagg

10

<210> 79
<211> 10
<212> DNA
<213> Glycine max

<220>
<223> soybean FAD2-1 cDNA target segment FAD 2

<400> 79

10

10

10

10

12

<220>

<210> 88
<211> 7

<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:finger F3 for
ordered output from optimal design target site

<400> 88
Glu Arg Asp His Leu Arg Thr
1 5

<210> 89
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:finger F2 for
ordered output from optimal design target site

<400> 89
Arg Ser Asp Glu Leu Gln Arg
1 5

<210> 90
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:finger F1 for
ordered output from optimal design target site

<400> 90
Arg Lys Asp Ser Leu Val Arg
1 5

<210> 91
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:finger for
disordered output from optimal design target site

<400> 91
Arg Ser Asp Glu Leu Thr Arg
1 5

<210> 92
<211> 7
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: finger for
disordered output from optimal design target site

<400> 92

Arg Ser Asp Glu Arg Lys Arg
1 5

<210> 93

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: three finger
ZFP design using F3, F2 and F1 fingers for ordered
output from optimal design target site

<400> 93

Arg Lys Asp Ser Leu Val Arg Arg Ser Asp Glu Leu Gln Arg Glu Arg
1 5 10 15

Asp His Leu Arg Thr
20

<210> 94

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: ZFP sequence
(F1, F2 and F3) from SBS design GR-223

<400> 94

Arg Ser Ala Asp Leu Thr Arg Arg Ser Asp His Leu Thr Arg Glu Arg
1 5 10 15

Asp His Leu Arg Thr
20

<210> 95

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: ZFP sequence
(F1, F2 and F3) from Zif 268

<400> 95

Arg Ser Asp Glu Leu Thr Arg Arg Ser Asp His Leu Thr Thr Arg Ser

1

5

10

15

Asp Glu Arg Lys Arg
20

<210> 96
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:ZFP sequence
(F1, F2, F3) from SP1

<400> 96
Lys Thr Ser His Leu Arg Ala Arg Ser Asp Glu Leu Gln Arg Arg Ser
1 5 10 15

Asp His Leu Ser Lys
20

<210> 97
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:ZFP sequence
(F1, F2, F3) from SBS design GL-8.3.1

<400> 97
Arg Lys Asp Ser Leu Val Arg Thr Ser Asp His Leu Ala Ser Arg Ser
1 5 10 15

Asp Asn Leu Thr Arg
20